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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/573,570	07/11/2006	Michael Shephelovich	27312U	4786
20529	7590	09/30/2008	EXAMINER	
NATH & ASSOCIATES 112 South West Street Alexandria, VA 22314				O'HARA, BRIAN M
ART UNIT		PAPER NUMBER		
3644				
MAIL DATE			DELIVERY MODE	
09/30/2008			PAPER	

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/573,570	SHEPSHELOVICH ET AL.	
	Examiner	Art Unit	
	Brian M. O'Hara	3644	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 27 March 2006.
 2a) This action is FINAL. 2b) This action is non-final.
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-29 is/are pending in the application.
 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
 5) Claim(s) _____ is/are allowed.
 6) Claim(s) 1-29 is/are rejected.
 7) Claim(s) _____ is/are objected to.
 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
 10) The drawing(s) filed on 27 March 2006 is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ . |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>07/12/2006</u> . | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| | 6) <input type="checkbox"/> Other: _____ . |

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Where applicant acts as his or her own lexicographer to specifically define a term of a claim contrary to its ordinary meaning, the written description must clearly redefine the claim term and set forth the uncommon definition so as to put one reasonably skilled in the art on notice that the applicant intended to so redefine that claim term. *Process Control Corp. v. HydReclaim Corp.*, 190 F.3d 1350, 1357, 52 USPQ2d 1029, 1033 (Fed. Cir. 1999). The terms “tip chords” and “root chords” in claim 22 are used by the claim to mean “wing tips” and “wing roots”, respectively, while the accepted meaning of a chord is “a length measurement from the leading edge of the wing to the trailing edge of the wing.” The terms are indefinite because the specification does not clearly redefine the term.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. **Claims 1, 4, 8, 9, 13-17, 19-21, and 27-29 are rejected under 35 U.S.C. 102(b) as being anticipated by Swinson et al. (US 5,890,441 A).** Swinson et al. discloses a UAV comprising: a fore wing (4) with non-positive trailing edge sweep (See Fig. 4), an

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aft wing (1) with side panels (9), a tapered planform (1), and control surfaces (3, 11), the fore and aft wing being disposed at different heights (See Fig. 1, 4 is higher than 1) and in tandem close-coupled arrangement.

5. In regard to claim 4, Swinson et al. discloses a fuselage (5).
6. In regard to claims 8 and 9, Swinson et al. discloses an aircraft arrangement that has a wing planform area that is at least 70% of the total areas of both the wings and area between the wings (see Fig. 1), and provides longitudinal aerodynamic stability (Column 12, Lines 26-34).
7. In regard to claims 13-17 and 19 Swinson et al. discloses fore (4) and aft (1) wings with low aspect ratios, where the aft wing has a larger planform area (see Fig. 1) and the aft wing has rudder control surfaces (10, 11) on it's side panels (9). The fore wings have side panels (8) and control surfaces (See Fig. 6).
8. In regard to claims 20, 21, and 27-29, Swinson et al. discloses a tractor propeller (15), at least one wing with non-zero dihedral angle (Column 12, Lines 26-34), longitudinal aerodynamic stability (Column 12, Lines 26-34), a pushing propeller (14), and a negative pitching moment at zero lift (Column 12, Line 1)

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

10. Claims 2, 3, 5, 6, 7, and, 10-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Swinson et al. in view of Herrick (US Patent 2,699,299 A).

Swinson et al. discloses the UAV as described above, but does not disclose specific height difference, longitudinal closeness, or sweep angles of the wings. Herrick discloses the fore wing (34) having negative sweep, with straight trailing edges with negative sweep (see Fig. 1), and rounded tips. Herrick also discloses the fore wing being mounted on a pylon (38), being disposed higher than the aft wing by at least the length of an average aft wing chord (See Fig. 1) and the wings partially overlapping each other (24 and 34), with the trailing edge (42) of the aft wing having a negative sweep angle. The fore wing being larger than the rear wing results in a positive pitching moment at zero lift. At the time of invention, it would have been obvious to one of ordinary skill in the art to combine the UAV of Swinson et al. with the wing position and shape of Herrick. The motivation for doing so would have been to get airflow over the aft wing which wasn't disturbed by the fore wing.

11. Claims 18 and 22-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Swinson et al. In view of the disclosure in Swinson et al., it would be obvious to provide the wings on the aircraft described above with dihedral and twist. Use of dihedral, twist, incidence angles, airfoil pitching moments and rudder control surfaces are well known in the art to provide certain performance characteristics which would be needed to control such an aircraft. It would also be obvious to provide the aft wing with a positive angle of incidence and an airfoil with a positive zero lift pitching moment.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Miles (FR 943.005) discloses an aircraft with many of the same aircraft design elements (See Fig. 5).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian M. O'Hara whose telephone number is (571)270-5224. The examiner can normally be reached on compressed 5/4/9.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael R. Mansen can be reached on (571)272-6608. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/B. M. O./
Examiner, Art Unit 3644

/Michael R Mansen/
Supervisory Patent Examiner, Art Unit 3644